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newsletter of the MRT project

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Designing for the future

TRAINS define the identity of a rail service and Mass Rapid Transit Corporation Sdn Bhd is putting a lot of attention to the design of the trains that will be used for the MRT Sungai Buloh-Kajang Line. (Stories on page 2)



MODERN • Artist impression of the MRT train which is based on the "Guiding Light" design theme.

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THE “GUIDING LIGHT” OF THE MRT

by Nik Haizan Nik Zambri

TRAINS always define the identity of a rail service. They are the main contact point between a rail operator and its customers.

With this in mind, Mass Rapid Transit Corporation Sdn Bhd (MRT Corp) is putting a lot of effort on the design aspects – both external and internal - of the trains that will run along the 51km MRT Sungai Buloh-Kajang Line.

The trains are designed by BMW Group Designworks USA and engineered by renowned train manufacturer Siemens AG.

Fifty eight four-car trains will be purchased, with each car carrying around 300 passengers. The trains will run in two loops, giving a frequency of 5 minutes in the outer areas and of 3.5 minutes in the city centre. This allows a capacity of 25,000 passengers to be transported per hour per direction.

The theme “Guiding Light” was chosen for the external design for the train. The theme represents strong and solid character as well as modernity and timelessness. The design was inspired by the various beautiful architectural features of Kuala Lumpur.

The design is defined by the train’s unique outline that symbolises modern technology. It also gives a strong sense of identity as well as the safety of the passengers. The stripes on the sides of the train are traditional yet applicable to today’s modern lifestyle, which is hoped will give the trains a fresh look for generations to come.

A lot of attention has also been given to the design of the interior because besides aesthetic

considerations, basic requirements such as comfort, practicality and user-friendliness are major factors that need to be looked at closely.

The interior design is visualised as an open environment that is inviting, light and fresh, incorporating long-lasting and easy to maintain colours with seats in cool blue tones that will alternate in a three tonality rhythm.

To help the MRT Corp team ensure a high standard of comfort for passengers, Siemens constructed a life-size sectional mock-up of the train to enable the team to assess and conduct ergonomic studies of various aspects of the design.

Besides ergonomics, the MRT Corp team will also determine the placing of hand rails/grabs, fittings and the materials used, as they have to be durable for heavy use and be easily maintained.

A virtual reality application which simulates the physical presence of a “passenger” inside the train has also been installed at the MRT Corp Headquarters.

The application allows the “passenger”, who wears a pair of hi-tech goggles, to walk around and see every detail of the inside and outside of the train. What the passenger sees, as well as a view of him or her as an avatar inside or outside the train, can also be projected onto a screen.

The final assembly of the MRT trains will be carried out at a new train assembly plant at Rasa, Hulu Selangor when the skeletons and all the different components that make up the complete train are shipped to Malaysia.



TESTING GROUND • MRT Corp’s electric train team testing the ergonomics of the train with the mock-up.



VIRTUAL PASSENGER • MRT Corp Chief Financial Officer Encik Mohd Hairul Abdul Hamid donning the goggles which allows him to experience being inside the train. He is represented by the avatar in the projection behind.



NEAT • MRT Corp Chief Executive Officer Dato’ Azhar Abdul Hamid having a look at the mock-up of the train driver’s console. The trains will be driverless and this console will only be used when a train needs to be driven manually under specific circumstances.



SLEEK • Artist impression of the MRT train.



COMFORTABLE • Artist impression of the interior of the train.

FIRST TRAIN ASSEMBLY PLANT IN MALAYSIA

by Nik Haizan Nik Zambri



GREEN PLANT • Artist impression of the train assembly plant to be built by SMH Rail. The building in front is the administrative building while that at the back is the assembly workshop.

ONE of the highlights of the Klang Valley MRT Project is that the project will see the first ever train assembly plant built in Malaysia. The plant, which is being built by SMH Rail Sdn Bhd, will be located in Rasa, Hulu Selangor.

SMH Rail partnered with train manufacturer Siemens AG and were the successful bidders for the rolling stock contract of the MRT Sungai Buloh-Kajang Line. SMH Rail will handle the assembly of the train.

The plant will consist of two buildings – an administration building and the train assembly workshop – and will be constructed on a four hectare site. The plant is expected to be completed by December 2013.

Once construction is completed, the plant will undergo technical tests for three months.

“These tests will mirror those done at the Siemens plant in Vienna. By May 2014 the plant will be ready for operation and over 160 staff will be hired to work at the plant,” said SMH Rail Project Director Mr Neville Krogh.

The plant will operate 24 hours a day, seven days a week.

The MRT train main body will be manufactured by CSR Nanjing Puzhen Rolling Stock Co Ltd in China. The first car for the first train set to be assembled in Rasa will arrive in June 2014. “It will take about three months to assemble the four cars to a complete train set,” Mr Krogh said.

At any given time, six train sets will be undergoing various stages of assembly and testing. The 334 square metre warehouse can store up to 14 train sets. The plant will also be equipped with a 150 metre long track for testing.

Besides assembling the trains, SMH Rail will also provide all the cables to be used inside the trains. Approximately 2.5km of cables will be needed to build a single car.

“For 58 trains, we will need about 580km of cables which is about the distance from Kuala Lumpur to Penang and back!” Mr Krogh said. An empty train car shell weighs about 10 tonnes but the weight will double to 20 tonnes after it is fully assembled.

Personnel from Siemens will be stationed at the plant to make sure the quality of the trains assembled comply with Siemens standards.

This state of the art assembly plant is also a green building using natural lighting and open ventilation to save energy. There will also be landscaping around the building to improve its aesthetics.

SMH Rail was established in 2000. The company specialises in railway engineering and their services include maintenance of locomotives and rail track maintenance.



from the desk of the CEO
DATO' AZHAR ABDUL HAMID

NO STOPPING FOR THE MRT PROJECT

THE second quarter of 2013 has been a momentous period for the Klang Valley MRT Project. In the span of three hectic months, the project has seen several very significant milestones achieved.

Firstly, I'm pleased to announce that excavation work for our tunnels have started. Four tunnel boring machines (TBMs) – two of them the world's first Variable Density tunnel boring machines – are now digging their way beneath the city of Kuala Lumpur, 24 hours day, seven days a week, 365 days a year.

The first Variable Density TBM of six that will be used in the project was launched on 30 May 2013 by our Prime Minister Dato' Sri Mohd Najib Tun Abdul Razak at the Cochrane Launch Shaft. The machine is now making its way at a pace of about 10m a day towards the Pasar Rakyat Station site in the middle of the Tun Razak Exchange development.

The second TBM, an Earth Pressure Balance machine, began work at the Semantan Portal on 17 June 2013. The machine will make its way, towards KL Sentral and then onwards to Pasar Seni. The third and fourth TBMs began work soon after that.

As I have mentioned in my column in the previous editions of *MRT News*, the start of tunnel excavation works is extremely significant for the project. We at MRT Corp are extremely proud of this as tunneling for the MRT Sungai Buloh-Kajang Line will be extremely challenging. But rest assured that we are using the best technology available in the world and some of the most experienced minds to lead us through this stage of construction.

As our tunnelling guys always say, "Once we start tunnelling, there is no stopping." Whilst this is of course not exactly true, I still like the sound of it. Indeed, it is all full swing and no stopping now for the MRT Sungai Buloh-Kajang Line until 2017.

For our elevated section, we have completed constructing the first span of our viaduct. This is the first 39.8m of the total 41.5km of the elevated guideway for our line.

The construction of the viaduct is no less technologically challenging as thousands of segmented box girders, each weighing an average of 30 tonnes, having to be hoisted and pulled together to form a single structure before being placed on piers.

Certain sections of the elevated alignment will have to be cast at the location of construction itself. Bearing in mind that several tragic construction-related accidents have occurred recently, MRT Corp will have to redouble its efforts to ensure that the safety of the public and also its workers are not compromised at all times.

Moving away from construction, our systems works are also gaining momentum.

Now that we have finalised the external design of our trains, focus has now turned to the interior. We want to ensure that the internal design is comfortable, user-friendly and practical, while looking modern and attractive. The cover story of this edition of *MRT News* will give you an idea on how much effort our team is putting into this.

I'm also extremely happy that this project will result in the setting up of the first train assembly plant in Malaysia. The plant, in Rasa, Hulu Selangor, will certainly usher in a new era for the railway industry of this country.

I'm proud to say that the team in MRT Corp, as well as our Project Delivery Partner, contractors and all others who are involved in the project, are totally committed to seeing this project completed on time and within cost.

All of us cannot wait to see the first trains run in 2016, and I'm sure the public is also eagerly looking forward to this momentous occasion when they can ride on Malaysia's first MRT line.

Thank you.

Azhar



HIGH TECH • Prime Minister Dato' Sri Mohd Najib Tun Abdul Razak being briefed on how the world's first Variable Density Tunnel Boring Machine works by MMC Gamuda KVMRT (T) Sdn Bhd engineer Mazuki Saleh (right). With them are (from left) MRT Corp Chief Executive Officer Dato' Azhar Abdul Hamid and MRT Corp Chairman Tan Sri Dr Ali Hamsa. Story of the event is on the back page.

GUIDEWAY CONSTRUCTION STARTS

by Nik Haizan Nik Zambri



HEAVY WORK • The launching gantry lifting the SBGs into position.

THE first viaduct span of the Klang Valley MRT Sungai Buloh-Kajang Line has been successfully erected near Bandar Tun Hussein Onn.

The completed viaduct spans between Piers 132 and 133, which is located in Package V6 of the project, just north of the future Bandar Tun Hussein Onn Station along the Cheras-Kajang (Grand Saga) Highway. The completed viaduct is a standard span of 39.8m, with a standard width of 9.8m to cater to the MRT's double tracks.

Construction of this first span began in early June and was completed in two weeks. Each subsequent

span will take about five days to a week to be completed.

The elevated viaduct, upon which the MRT tracks will be laid, are constructed by using launching gantries. These gantries are steel truss structures that are installed onto two adjacent piers. They will construct the viaduct by moving from pier to pier.

To construct a span, the gantry will first lift all 14 segmented box girders (SBGs) needed for a standard span. The SBGs are then placed side by side and levelled. Cables are then run through all the SBGs and stressed, enabling the formation of a single-piece viaduct.



COMPLETED • With the first viaduct span between Piers 132 and 133 done (background), the launching gantry will now move forward to construct the next viaduct span between Piers 133 and 134.

SBGs are concrete boxes which are open on two sides. Each segment is match-cast so that they can fit exactly with each other and when stressed, give a smooth continuous structure. The SBGs, each weigh an average of 30 tonnes.

Once the 14 SBGs are stressed together as a beam, they are then lowered onto the bearings located on the piers.

With the first span for the project completed, the launching gantry will now move southwards to construct the next span between Piers 133 and 134.

Meanwhile, a second launching gantry, near the Sri Sabah Flats in Cheras which is under Package V5 of the project, has also undergone load testing and has commenced erecting the viaduct beam.

Over 17 launching gantries will be used to construct the entire 41.5km elevated section of the MRT Sungai Buloh-Kajang Line. These gantries will be put to work at various locations. The entire elevated alignment will require over 17,000 units of SBGs of various sizes which will sit on over 1,000 piers.

project updates



ALMOST COMPLETE
Aerial view of the Sungai Buloh Centralised Labour Quarters, where the MRT construction workers will stay during the construction period.



VAST SITE
Aerial view of the construction of the workshop at the Sungai Buloh Depot site.



COMING UP
Piers for Package V1 taking shape along Jalan Sungai Buloh-Subang near Kota Damansara.



READY
Piers for the MRT guideway under Package V2 inside Rubber Research Institute land.



ON-GOING
Construction for the MRT alignment and Dataran Sunway Station in front of the shops at the Sunway Damansara commercial area.



TIGHT SPACE
Construction activity between Pinggir Zaaba in Taman Tun Dr Ismail and the Damansara Puchong Highway.



HISTORIC SITE
Aerial view of the Merdeka Station, near the Merdeka Stadium, showing the diagonal struts which have been installed.



BIG MACHINE
A clamshell grab being used to excavate the trench for the construction of the diaphragm wall at the Bukit Bintang MRT Station.



DEEP DIGGING
Excavation work at the Pasar Rakyat Station box.



PUSHING AHEAD
Construction works along Jalan Cheras opposite the Cheras Leisure Mall.



COMPLETED
The first viaduct completed at Bandar Tun Hussein Onn.



HARD AT WORK
Bore piling rigs working along the median of Jalan Damansara near the Kiara Muslim Cementary.



UPRIGHT
A completed pier under Package V4 along the Sprint Highway at Kelab Golf Perkhidmatan Awam (KGPA).



GETTING READY
View of the two Earth Pressure Balance tunnel boring machines at Semantan Portal. The machine at the front of the picture began tunnelling works in mid-June, while the second machine was launched one month later.



FULL SWING
View of the KL Sentral MRT Station showing the construction of the roof slab taking place.



STATE OF THE ART
View of the first Variable Density tunnel boring machine that has started excavation works. The second machine, partially hidden on the right, has also begun tunnelling works.



BUSY SITE
Piling works in progress at the Maluri MRT Station site in front of the Cheras Police District Headquarters.



IN PROGRESS
View of the Maluri Portal site looking southwards from Jalan Cheras.



INSTALLED
Load testing being carried out for the first segmented box girder launching gantry for Work Package V5 near the Sri Sabah Flats in Cheras.



NEAT ROW
Piers taking shape along the Cheras-Kajang (Grand Saga) Highway at the Simpang Balak Interchange.



FUTURE HOMES
The Kajang Centralised Labour Quarters taking shape.



VAST
Piling works for the Kajang Depot administration building in progress.



NEW STATION
Piling works being carried out along Jalan Reko near Kajang KTM Station.

LABOUR ATTACHÉS VISIT CHERAS CLQ

by Nadia Azmi

THE labour attachés of four countries visited Mass Rapid Transit Corporation Sdn Bhd's (MRT Corp) Cheras Centralised Labour Quarters (CLQ) on 17 July 2013.

The visit was organised by MRT Corp to allow the attachés to view for themselves the facilities which were provided for workers involved in the construction of the MRT Sungai Buloh-Kajang Line.

The representatives of Cambodia, Nepal, Vietnam and Pakistan participated in the visit. Many of the MRT Project workers are from these countries. Representatives from the Department of Labour and the Construction Labour Exchange Centre Berhad also joined the visit.

The Cheras CLQ is one of four established by MRT Corp for workers. The other CLQs are located in Sungai Buloh, Cochrane and Kajang.

After the welcome speech from MRT Corp Chief Executive Officer Dato' Azhar Abdul Hamid, the visitors were given a briefing on the CLQ concept by Encik Adil Putra Ahmad, MMC Gamuda KVMRT (PDP) Sdn Bhd Deputy Construction Director. MMC Gamuda is the Project Delivery Partner for the MRT Project.

The representatives were then given a tour of the CLQ where they were able to see first-hand the living condition of workers and the various facilities available. Each of the CLQs is equipped with cabins which have three bunk beds, wardrobes and fans.

The CLQs also have cafeterias and common cooking facilities as well as prayer rooms, sick bays, and proper washing facilities. The bathing areas and toilets are also kept clean.

During their free time, the workers can utilise recreational facilities such as the futsal court and table tennis tables. The CLQs also have sundry shops where they can purchase food and other items.

The CLQs also have state-of-the-art security, such as the face recognition system. This enables proper control of people who enter and leave the CLQs. Workers are brought by bus to and from the CLQs to their worksites.

After the tour, some of the attachés conducted interviews with workers from their respective home countries.

The feedback from the labour attachés was positive and they were happy with the condition their nationals were being housed in.

"This is a very nice place. I don't even mind staying here," quipped Mr Syed Azhar Hashmi, Community Welfare Counsellor of the Pakistan High Commission in Malaysia.

At the height of construction, there will be as many as 12,000 workers with the MRT Sungai Buloh-Kajang Line. Among the nationalities of workers living in the CLQs are Indonesians, Bangladeshis, Myanmar, Pakistanis, Indians, Nepalese, Vietnamese and Cambodians.



LEADING THE WAY • MRT Corp CEO Dato' Azhar Abdul Hamid leading the tour of the Cheras CLQ, participated by foreign delegates and staff of MRT Corp and MMC-Gamuda KVMRT (PDP).



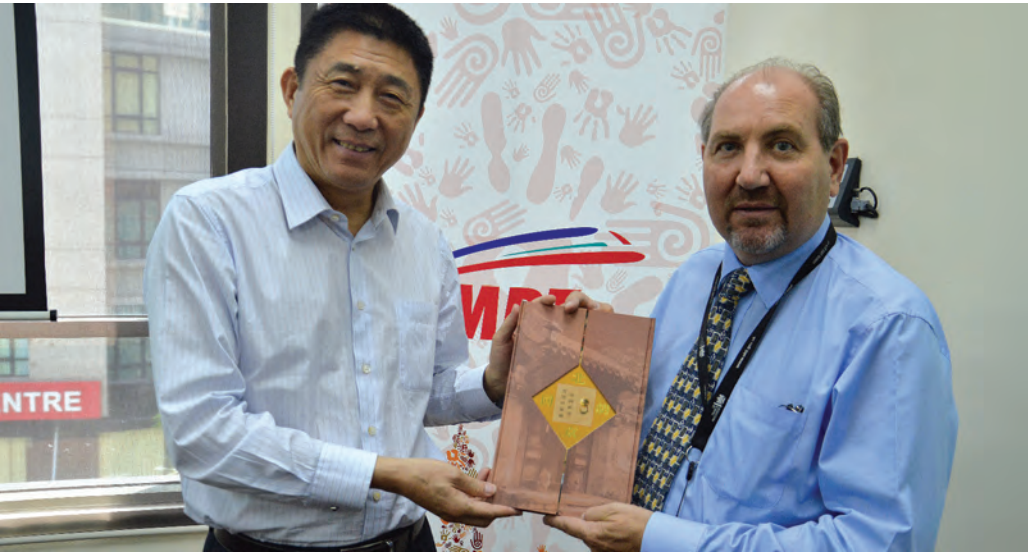
IMPRESSED • Director of Quality Assurance and Quality Control of MRT Corp, Tuan Syed Mahdhar Syed Hussain (right) explaining to the foreign delegates the facilities available in the CLQ during the tour.



SPACIOUS AND COMFORTABLE • MRT Corp CEO Dato' Azhar Abdul Hamid (middle) showing foreign delegates the CLQ cabin, which is equipped with bunk beds and wardrobes, with a capacity of accommodating up to six occupants.

COURTESY VISIT BY BEIJING VICE-MAYOR

by Wallace Soh Chun Hwei



TOKEN OF APPRECIATION • Mr Zhang Yankun (left), the Vice-Mayor of Beijing Municipality, presents a memento to MRT Corp Project Director Mr Marcus Karakashian.

MALAYSIA'S first MRT Project has not only caught the nation's attention but also parties from overseas. Vice-Mayor of Beijing Municipality Mr Zhang Yankun paid a courtesy visit to the corporate headquarters of Mass Rapid Transit Corporation Sdn Bhd (MRT Corp) on 20 June 2013.

Mr Zhang's delegation was welcomed by MRT Corp Project Director Mr Marcus Karakashian and MRT Corp's Director of Strategic Communications and Public Relations Encik Amir Mahmood Razak.

Mr Karakashian delivered a presentation to the delegation which covered general information about the MRT Sungai Buloh-Kajang Line and the latest updates. When told that the project was 18% complete as of mid-June 2013 while construction only started less than two years ago, Mr Zhang said he was impressed with the progress achieved thus far.

"I note that both Beijing and Kuala Lumpur are facing similar problems in terms of rapid growth of urban population and the strong need for a comprehensive public transport system," Mr Zhang said. Mr Zhang added that he looked forward to closer cooperation between the two cities.

"We can definitely learn from each other," he said, adding that one area of focus was the development of public transport.

Mr Zhang was delighted to learn that eight tunnel boring machines (TBMs) being used to construct the 9.5-km tunnel of the MRT Sungai Buloh-Kajang Line under Kuala Lumpur city centre were manufactured in China.

"I wish MRT Corp all the success in completing the project," he said.

MRT A HIT AT THE SUNWAY PROPERTY FAIR

by Alita Suraya Mohd Senawi

THE Mass Rapid Transit Corporation Sdn Bhd (MRT Corp) booth at the Sunway Property Fair on 13 and 14 April 2013 was a hit with many people visiting to find out more about the MRT Project.

The fair, which was held at the Sunway Pyramid Shopping Centre in Petaling Jaya, showcased many of the property developer's projects.

MRT Corp was invited to open a booth at the fair because the provision of good public transport infrastructure plays an important part and often acts as a catalyst for the development of new townships and housing areas.

Several of Sunway Group's projects located along Persiaran Surian will be served by the MRT Sungai Buloh-Kajang MRT Line which is now under construction.

MRT Corp Director of Strategic Communications and Public Relations Encik Amir Mahmood Razak, gave a presentation about the MRT project on both days of the property fair.

The talk received keen interest from the audience as many were interested to know more about the project, specifically about the areas which it will serve.



ALL EARS • Visitors listening to the presentation on the MRT Project by MRT Corp Director of Strategic Communications and Public Relations Encik Amir Mahmood Razak.



INTERESTING • Visitors watching a video on the construction of the MRT Project.



SEEKING INFORMATION • Visitors collecting brochures from the MRT Corp booth at the fair.



BUSY • Visitors dropping by at the MRT Corp booth at the property fair.

MRT CORP GOES TO UM

by Nadia Azmi



TOKEN OF APPRECIATION • Professor Dr Faisal Rafiq Mahamd Adikan presenting a framed certificate to Encik Amir Mahmood Razak to recognise MRT Corp’s participation in the symposium.

THE staff of Mass Rapid Transit Corporation Sdn Bhd (MRT Corp) “returned” to university when they represented the company in the University of Malaya Engineering Society’s Land Transportation Symposium.

Themed “Land Transportation, the Catalyst of Development”, the symposium aimed to provide students an insight into the land transport industry, particularly in railway and car manufacturing. The event was held at Perdanasiswa in the University of Malaya (UM) on 22 May 2013.

During the symposium, the Society presented a report of their visit to Japan where they managed to learn about the advanced railway systems and modern technology being applied there. This visit was done as part of the Engineering Society Overseas Study Scheme 31 (ESOSS-31) for the year 2013.

MRT Corp Director of Strategic Communications and Public Relations Encik Amir Mahmood Razak, who



FOR THE CAMERA • Organisers of the symposium and MRT Corp personnel posing for a photograph on the MRT Information Truck.

was the key speaker at the symposium, gave a presentation on the importance of the MRT for the country. He also talked about the positive impact the MRT Project would have in the future.

Encik Amir said engagements with students were vital in educating them on the need for a better public transport system in the country. He said awareness among the younger generation was necessary as efforts to provide better public transport would benefit them as future users.

The MRT Information Truck was also stationed at the lobby of Perdanasiswa during the event. Students visited the MIT where they got the opportunity to get a 360 degree view of the MRT Sungai Buloh-Kajang alignment by using the interactive “Hawkeye” application.

The event was also attended by UM Acting Dean of Faculty of Engineering Professor Dr Faisal Rafi Mahamd Adikan, ESOSS-31 Advisor Dr Hazlee Azil Illias and ESOSS-31 Director Mr Tan Zhi Quan.

HITTING THE GROUND

by Wallace Soh Chun Hwei



EXPLANATION • MMC Gamuda KVMRT (PDP) Sdn Bhd’s Encik Muhammad Amran Othman (right) with the residents of Damansara Utama near the MRT Project construction site along the LDP.

AS owner of the MRT Project, Mass Rapid Transit Corporation Sdn Bhd (MRT Corp) hopes to set new standards in the construction industry, not only in terms of project delivery but also in terms of engaging with stakeholders who are impacted by construction work.

Since the launch of construction of the MRT Sungai Buloh-Kajang Line by Prime Minister Dato’ Sri Mohd Najib Tun Abdul Razak on 8 July 2011, hundreds of engagement sessions with residents, resident associations, business people, traders and other groups living or operating near MRT worksites have been held.

These engagement sessions are aimed at providing information about construction activities which will be taking place as well as addressing concerns, such as on traffic congestion, safety and security, and environmental impact.

Some of these engagement sessions include site visits where the representatives from MRT Corp, PDP and Work Package Contractor (WPC) get to see first-hand the issues raised by the stakeholders. These visits allow the stakeholders to appreciate the construction activities taking place at the site. They can also learn of steps taken to minimise noise and dust pollution as well as traffic management initiatives.



ON THE GROUND • MRT project personnel and residents observing traffic at Jalan Medang Tanduk. The construction in this picture belongs to another project. The MRT worksite is nearby.

One of such visits took place at Bukit Bandaraya, Kuala Lumpur on 18 May 2013 when personnel from MRT Corp, PDP and the WPC, Sunway Construction Sdn Bhd participated in a walkabout along Jalan Medang Tanduk and along the Sprint Highway with the Bukit Bandaraya Residents’ Association.

While the MRT Project construction is taking place along the highway, there are also other construction and infrastructure projects in the vicinity. Representatives from the other projects were also present so that a holistic approach to resolving issues could be achieved.

Similarly, a walkabout was held in Damansara Utama on 30 May 2013 with representatives from the Damansara Utama Residents’ and Owners’ Association (DUROA). The association raised concerns on noise control, landscaping of worksite, safety and security, as well as traffic management.

With construction activities taking place along the entire 51km alignment of the MRT Sungai Buloh-Kajang Line, MRT Corp will continuously engage with stakeholders to ensure communication channels are kept open.

HAPPENINGS



KEEN INTEREST • Sierra Damansara residents having a close look at technical drawings during an engagement session on 21 May 2013 at the Kota Damansara MRT Information Centre. MRT Corp Director of Stakeholder Relations and Land Management Encik Haris Fadzilah Hassan (left) and MRT Corp Deputy General Manager, Elevated Construction – North, Mr Alex Yip Jui Yong (second left) briefed the residents during the session.



LISTENING INTENTLY • The committee members of Masjid Batu 10 Cheras and residents living nearby listening to Ahmad Zaki Sdn Bhd Project Manager Encik Mohd Hafiz Mohd inside the mosque during a session on 15 March 2013.



DISCUSSION • MMC Gamuda KVMRT (PDP) Sdn Bhd Deputy General Manager Mr Stanley Keung explaining details on construction work to the joint management board of Casa Indah I Condominium during an engagement session held on 2 March 2013.



QUESTION TIME • A resident from Jalan Kasah, Medan Damansara, asking questions during an engagement session held on 13 April 2013 at MRT Corp headquarters. Present at this session were MMC-Gamuda KVMRT (PDP) Sdn Bhd General Manager Encik Mohd Amjad Faruq (front, second left) and MRT Corp Director of Stakeholder Relations and Land Management Encik Haris Fadzilah Hassan (front, second right).



RAISING A POINT • A resident of Kampung Sungai Balak near Kajang voicing his concerns during an engagement session held on 30 May 2013 at the village community hall. About 50 villagers were present at the session.



ATTENTIVE • Students of the Faculty of Engineering and Built Environment, UCSI Kuala Lumpur, listening to MMC Gamuda KVMRT (PDP) Sdn Bhd Head of Public Relations and Communications Encik Zamri Hasan during a visit to the Taman Tun Dr Ismail MRT Information Centre on 20 June 2013.



INTERESTING • Students from the Civil Engineering and Infrastructure Works Faculty of UiTM Shah Alam watching MRT Corp Director of Strategic Communications and Public Relations Encik Amir Mahmood Razak demonstrate the Hawkeye which allows an interactive 360 degree view of the entire MRT Sungai Buloh-Kajang Line. The students visited the Taman Tun Dr Ismail MRT Information Centre on 6 June 2013.



INTERNATIONAL VISITORS • Students and lecturers from the Department of Logistics and Maritime Studies of the Hong Kong Polytechnic University visited the Taman Tun Dr Ismail MRT Information Centre on 13 June 2013. The group was briefed on details of the MRT Project.

TUNNEL BORING MACHINE LAUNCHED

by Nik Haizan Nik Zambri



LET THE WORKS START • Dato' Sri Mohd Najib Tun Abdul Razak pressing the button to launch the first Variable Density Tunnel Boring Machine in the world. With him are MRT Corp Chairman Tan Sri Dr Ali Hamsa (middle) and Suruhanjaya Pengangkutan Awam Darat Chairman Tan Sri Syed Hamid Albar (right).



TOKEN OF APPRECIATION • MRT Corp Chairman Tan Sri Dr Ali Hamsa presenting a model of a tunnel boring machine to Dato' Seri Mohd Najib Tun Abdul Razak as a souvenir.



INTERESTING • MMC Gamuda engineer Mandy Ang showing Dato' Seri Mohd Najib Tun Abdul Razak the cutterhead of the tunnel boring machine. With them is Suruhanjaya Pengangkutan Awam Darat Chairman Tan Sri Syed Hamid Albar.

ON 30 May 2013, the Klang Valley MRT Project marked an important milestone with the launch of the world's first Variable Density Tunnel Boring Machine (TBM). The launch was officiated by Prime Minister Dato' Sri Mohd Najib Tun Abdul Razak at the Cochrane Launch Shaft.

The launch also marked the commencement of tunnel excavation works for the project. The first TBM will excavate northwards and be retrieved at Pasar Rakyat Station, covering a distance of 1.2km.

The first Variable Density TBM was specially designed to handle tunnelling works through the extreme Karstic conditions of the Kuala Lumpur Limestone geological formation. The TBM was developed jointly by the MRT Project's underground works contractor MMC Gamuda KVMRT (T) Sdn Bhd and world-renowned TBM manufacturer Herrenknecht AG.

To mark the launch of the TBM, Dato' Sri Mohd Najib pressed a button at a console which was erected next to the machine at the bottom of the 30m deep launch shaft.

He was accompanied by Mass Rapid Transit Corporation Sdn Bhd (MRT Corp) Chairman Tan Sri Dr Ali Hamsa, MRT Corp Chief Executive Officer Dato' Azhar Abdul Hamid, MRT Corp Project Director Mr Marcus Karakashian, Suruhanjaya Pengangkutan Awam Darat Chairman Tan Sri Syed Hamid Albar, and Gamuda Bhd Group Managing Director Dato' Lin Yun Ling.

The Prime Minister then visited the inside of the TBM which he had launched, and the second TBM which was being assembled next to the first machine.

Earlier in his speech, Dato' Sri Mohd Najib said the launch marked an important milestone in the transformation of the country's public transport industry.

"Once completed, the Project will benefit the people at large for generations to come," he said, adding that the MRT Project will serve a long term goal, not only to help alleviate traffic congestion, but also boost the growth of Malaysia's economy.

Four TBMs will be launched from the Cochrane Shaft. Two, including the one which was launched by the Prime Minister, will excavate northwards to Pasar Rakyat Station, which is located within the Tun Razak Exchange Development. The other two will tunnel southwards to the Maluri Portal where the line will continue on an elevated viaduct to Kajang.

A total of 10 TBMs will be used to construct the underground portion of the MRT Sungai Buloh-Kajang Line. Six of them are Variable Density TBMs while the remaining four are Earth Pressure Balance TBMs.



PROUD • Prime Minister Dato' Seri Mohd Najib Tun Abdul Razak giving his keynote address during the event.

DATO' SRI IDRIS JALA VISITS MRT PROJECT

by Nik Haizan Nik Zambri

MINISTER in the Prime Minister's Department Dato' Sri Idris Jala visited the Cochrane Launch Shaft on 28 May 2013 to see for himself the progress of the Klang Valley MRT Project.

During his visit, Dato' Sri Idris, who is Head of the Performance Management Delivery Unit (Pemandu) of the Prime Minister's Department, saw first hand the two tunnel boring machines (TBMs) being assembled in the shaft.

He also saw various other preparatory activities being carried out inside the 30m-deep shaft prior to the launch of the first TBM. His visit took place two days before the official launch of the world's first Variable Density Tunnel Boring Machine by Prime Minister Dato' Sri Mohd Najib Tun Abdul Razak and the start of tunnelling works.

Prior to that, Dato' Sri Idris was briefed about the progress of the entire MRT Sungai Buloh-Kajang Line by Mr Goh Tze Kh'ng, Director of Elevated Construction (North), and Mr Blaise Mark Pearce, Director Tunnels, both of Mass Rapid Transit Corporation Sdn Bhd (MRT Corp).

Also present at the event were Dato' Ahmad Suhaili, Director for the Urban Public Transport National Key Results Area and Greater Kuala Lumpur/ Klang Valley National Key Economic Area in Pemandu, MRT Corp Chief Executive Officer Dato' Azhar Abdul Hamid, and Project Director Mr Marcus Karakashian.

After the visit, Dato' Sri Idris expressed satisfaction with the progress of the project.

Dato' Sri Idris also advised MRT Corp to take extra precautions when it came to working at delicate locations such as Bukit Bintang where it was very busy and where many traders were affected by construction works.

"I understand tunnelling at the transition between the Kuala Lumpur Limestone Formation and the Kenny Hill Formation near the Pavilion Shopping Centre is very challenging. MRT Corp should monitor the situation closely," he said.

Kuala Lumpur Limestone Formation, which is found in the eastern part of Kuala Lumpur, has extreme



DISCUSSION • Dato' Sri Idris Jala (centre) sharing a point with Dato' Azhar Abdul Hamid during his visit to the Cochrane Launch Shaft.

Karstic conditions that is very challenging to tunnel through. The Kenny Hill Formation, which is found in the western part of Kuala Lumpur, is made up of sedimentary rock and sand, and less difficult to

tunnel through. The Klang Valley MRT Project is an Entry Point Project of the Greater Kuala Lumpur/ Klang Valley National Key Economic Area under the Government's Economic Transformation Programme (ETP).

We welcome your enquiries and suggestions.
Kindly email to feedback@mymrt.com.my

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Mon – Fri: **10.00am – 6.00pm**
Saturday: **10.00am – 2.00pm**

